

REMARKS

In the Action, claims 2-12 are rejected. In response, claims 2 and 5 are amended, and claims 3, 4 and 8 are cancelled. New claims 13 and 14 are added.

Independent claim 2 is amended to recite a method of producing coated paper for offset printing or gravure printing. Claims 2 and 5 are also amended to recite the step of applying the color coating containing a pigment, adhesive and polyvinyl alcohol by a film transfer method using a transfer roll coater or a metering size press and where the offset or gravure printing does not use a cold set ink. New independent claims 13 and 14 are added to recite a method for offset printing or gravure printing using the paper prepared by the method of claims 2 and 5, respectively. These amendments and claims are supported by the specification as originally filed.

The pending claims in this application are claims 2, 5-7 and 9-14, with claims 2, 5, 13 and 14 being independent. In view of these amendments and the following comments, reconsideration and allowance are requested.

The Rejections

Claims 2-12 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,197,155 to Wurster et al. Wurster et al. is cited for allegedly disclosing each of the claimed features of the invention.

The claims are not anticipated by Wurster et al. since Wurster et al. does not disclose a method of producing a coated paper for offset printing or gravure printing that does not use a cold set ink. Wurster et al. further fails to disclose a claimed method of applying a color coating that applies a color coating containing 0.1 to less than 2.0 parts by weight polyvinyl alcohol per 100 parts by weight of the pigment by a transfer roll coater or metering size press to apply a coating weight of 7 g/m² or more. Wurster et al. further fails to disclose a method of producing a coated paper by applying a coating color containing a pigment, an adhesive,

0.1 to less than 2.0 parts by weight polyvinyl alcohol and less than 2 parts by weight of a starch where the coating color is applied using a transfer coater or metering size press.

Accordingly, the claims are not anticipated by Wurster et al.

Wurster et al. is specifically directed to a glossy coated web printing paper for use with cold set inks in a cold set printing process. Furthermore, Wurster et al. does not disclose a method of producing a coated paper by applying a coating color containing a pigment, an adhesive and a polyvinyl alcohol in the amounts of claim 2. Wurster et al. further fails to disclose the claimed method of applying a coating color containing a pigment, polyvinyl alcohol and a starch as in claim 5. Accordingly, claims 2 and 5 and the claims depending therefrom are not anticipated.

Claims 2, 3 and 5-12 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,030,325 to Saji et al. in view of U.S. Patent No. 4,154,899 to Hershey et al. Saji et al. is cited for disclosing a method of producing a coated paper using a coating composition including a pigment and an adhesive where the adhesive can be polyvinyl alcohol. Hershey et al. is cited for disclosing a similar method using a color coating containing a pigment and an adhesive where the coating color can contain polyvinyl alcohol.

The combination of the cited patents does not suggest producing a coated paper for offset printing or gravure printing by applying a coating color containing a pigment, an adhesive and polyvinyl alcohol in claimed amounts using a transfer roll coater or metering size press as claimed. The present invention is directed to a method of producing a coated paper from printing using a coating color and enables an increase in the coating weight while maintaining the transferability of the coating from the coating roller to the paper and providing a coated paper with excellent printing properties. As noted on page 8, lines 20-25 of the specification, the transferability of the coating color to the base paper is dramatically improved and provides excellent sheet gloss and ink density by the use of 0.1 parts to less than 2 parts by weight polyvinyl alcohol as an auxiliary rather than a binder. In the prior

processes, it is difficult to increase the coating weight while still maintaining good transferability from the coating roller to the paper.

Applicants have found that the coating weight of the color coating can be increased by film transfer methods using a transfer roll coater or a metering size press to attain a coating weight on one side of the paper in an amount of 7 g/m² or more. The polyvinyl alcohol used in the claimed invention is used in addition to the adhesives that are commonly used in the prior processes.

The polyvinyl alcohol of the claimed invention when used in combination with the adhesives improves the transferability of the coating color from the transfer roll coater or metering size press onto the base paper. The polyvinyl alcohol increases the coating weight while maintaining the coating efficiency and enables the production of coated papers for printing with improved printability in offset printing or gravure printing. These features are not suggested in the art of record.

Page 9, lines 4-5 of the specification refer to the film transfer coating using a transfer roll coater or a metering size press coater. The transfer roll coater is a coater that transfers the coating color between rolls using a plurality of rotating rollers while applying a nip pressure. The roll coater weighs and smoothes the coating color while an applicator roller coats the base paper. The meter size press is an example of a roll coater having blades or hydrobar coater heads.

Saji et al. and Hershey et al. do not relate to a film transfer method using a transfer roll coater or metering size press. Saji et al. specifically discloses the polyvinyl alcohol as being a conventional adhesive. Thus, Saji et al. does not suggest the claimed coating color containing a pigment, an adhesive and polyvinyl alcohol in the claimed amounts. Saji et al. furthermore specifically discloses that the amount of the adhesive is adjusted to the range of 5 to 50 parts by weight based on the weight of the pigment.

Saji et al. does not suggest the use of polyvinyl alcohol as an additive or auxiliary in conjunction with the conventional adhesives. Saji et al. furthermore fails to suggest the claimed amounts of polyvinyl alcohol to improve the transferability of the coating from the coating roller to the paper to enable a coating weight of 7 g/m² or more. Saji et al. only suggests polyvinyl alcohol as a conventional adhesive, and thus, provides no guidance to one of ordinary skill in the art to use polyvinyl alcohol in the claimed amounts to attain the claimed features.

Hershey et al. relates to a method of producing a coated paper for printing where the coating contains 1.5 parts by weight polyvinyl alcohol based on the weight of the pigment. However, Hershey et al. relates to a blade coating method and does not suggest the film transfer method by a transfer roll coater or a metering size press as claimed. The invention is based on the discovery that the addition of polyvinyl alcohol in the claimed amounts in addition to the adhesive provides improved transferability from the coating roller to the paper to increase the coating weight. Hershey et al. provides no motivation or incentive to include polyvinyl alcohol in the process of Saji et al.

The combination of Saji et al. and Hershey et al. do not suggest the claimed method of applying a coating roller containing a pigment and an adhesive and further containing 0.1 to less than 2 parts by weight polyvinyl alcohol based on the weight of the pigment and applying the coating color by a transfer roll coater or a metering size press to obtain a coating weight of 7 g/m² or more. A combination of Saji et al. and Hershey et al. do not disclose the method of applying a film transfer of a coating color containing a pigment, an adhesive, polyvinyl alcohol as an auxiliary component and less than 2 parts by weight of starch as an adhesive as in claim 5. Accordingly, claims 2 and 5 are not obvious over the combination of Saji et al. and Hershey et al.

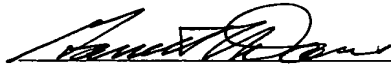
The dependent claims are also allowable as depending from an allowable base claim and for reciting additional features of the invention. Saji et al. and Hershey et al. do not

disclose the adhesive being present in an amount of 5 to 50 parts by weight as in claim 10, an amount of 10 to 30 parts by weight as in claim 11, or the coating color comprising 40 to 70 wt% solids as in claim 12, in combination with the method of claim 2. The cited art also does not disclose the method for producing the coated paper where the coating color includes 18 parts by weight or less of an adhesive as in claim 6, the coated paper being suitable for web offset printing as in claim 7, or the resulting coated paper of claim 9, in combination with the features of claim 5. Accordingly, these claims are allowable over the art of record.

Claim 4 is rejected as being obvious over Saji et al. in view of Hershey et al., and further in view of U.S. Patent No. 4,258,104 to Lee et al. Claim 4 is cancelled to obviate this rejection. Furthermore, Lee et al. only discloses a blade coating method. Lee et al. does not suggest a film transfer method using a transfer roll coater or a metering size press as now claimed.

In view of these amendments and the above comments, reconsideration and allowance are requested.

Respectfully submitted,


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